

BOGACHEV, V.M.; KRAVTSOV, Yu.A.

Harmonic effect on a two-circuit system coupled with nonlinear capacitance. Izv.vys.ucheb.zav.; radiofiz. 6 no.6:1202-1215 '63. (MIRA 17:4)

1. Moskovskiy energeticheskiy institut.

BOGACHEV, V.M.; KUNIN, S.L.; PETROV, V.Ye.; POPOV, I.A., kand.
tekh. nauk, dots.

[Design of transistorized transmitter stages; manual for
a design course] Raschet kaskadov poluprovodnikovyykh pe-
redatchikov; posobie po kursovomu proektirovaniyu. Mo-
skva, Mosk. energ. in-t, 1964. 170 p. (MIRA 1811)

1. Moskovskiy elektrotekhnicheskii institut svyazi (for
Popov). 2. Kafedra radiopere dayushchikh ustroystv Moskov-
skogo energeticheskogo instituta .

ACC NR: AT502563

SOURCE CODE: UR/2657/65/000/013/0158/0184

AUTHOR: Bogachev, V. M.; Popov, I. A.

ORG: none

TITLE: Optimal operation of a separately-excited transistor oscillator and its calculation [Report at the 19th All-Union Conference of NTORIE, 10 May 63]

SOURCE: Poluprovodnikovyye pribory i ikh primeneniye; sbornik statey, no. 13, 1965, 158-184

TOPIC TAGS: electronic oscillator, transistor oscillator

ABSTRACT: Calculation of the transistor oscillator is given only in the S. M. Gerasimov et al. article ("Principles of theory and calculation of transistor circuits," Sov. Radio, publisher, 1963); no optimal conditions are dealt with, and a number of errors have been found in that article. The present article investigates a common-emitter oscillator circuit with parallel base and collector oscillatory circuits. Permissible values of collector voltage, collector current, junction temperature, and emitter-junction reverse voltage are established; design formulas are developed. It

Card 1/2

UDC: 621.373.52

L 26701-66

ACC NR: AT5025637

is found that: (1) With a specified output, the number and type of transistors can be determined from calculating the maximum transistor power on the basis of the four above permissible parameters; (2) In specified-power calculations, it is expedient to use the maximum oscillator efficiency which is only slightly sensitive to the cutoff angle; here, zero bias is preferable as it simplifies the circuit and lowers emitter voltages; (3) The zero-bias conditions, however, do not ensure minimum dissipated power in the transistor; biasing the transistor may become necessary with a consequent reduction of the cutoff angle; this reduction is efficient only when the power gain is high and oscillatory power low; (4) Reducing the cutoff angle to achieve the minimum dissipated power does not entail substantial increase in the current pulse; however, the emitter reverse voltage considerably increases, and power gain decreases. Orig. art. has: 9 figures and 77 formulas.

SUB CODE: 09 / SUBM DATE: none / ORIG REF: 014 / OTH REF: 001

Card 2/2 *mg*

BOGACHEV, V.M.

Calculation of the cutoff frequencies of a drift transistor
using a charge method. Radiotekh. i elektron. 10 no.1:157-166
Ja '65. (MIRA 18:2)

BOGACHEV, V.M.

Synthesis of the equivalent circuits of a junction transistor with distributed parameters. Radiotekh. i elektron. 10 no.10:1904-1907 0 '65. (MIRA 18:10)

1. Moskovskiy ordena Lenina energeticheskiy institut, kafedra radioperedayushchikh ustroystv.

BOGACHEV, V.M.

Transient characteristics of a theoretical model of a drift transistor. Radiotekhnika 20 no.8:65-71 Ag '65.

(MIRA 18:8)

1. Deystvitel'nyy chlen Nauchno-tekhnicheskogo obshchestva radiotekhniki i elektrosvyazi imeni A.S. Popova.

ACC NR: AT6022357

SOURCE CODE: UR/0000/66/000/000/0036/0046

AUTHOR: Bogachev, V. M.

ORG: none

TITLE: Dependence of equivalent circuit parameters of drift transistors on the character of dopant distribution in the base

SOURCE: Vsesoyuznaya nauchnaya sessiya, posvyashchennaya Dnyu radio. 22d, 1966: Sektsiya poluprovodnikovyykh priborov. Doklady, Moscow, 1966, 36-46

TOPIC TAGS: transistor, ~~parameter~~, ~~impurity~~ semiconductor *research*

ABSTRACT: All of the low- and high-frequency parameters of a drift transistor, including the base resistance, are found by taking into consideration the non-constant field and mobility in the transistor base. Equivalent theoretical circuits, based on the parameters discussed, are found. All of the transistor parameters can be divided into two groups and found by considering either the static volt-ampere characteristics or charge accumulation in the transistor base. The latter group of parameters may be found for any dopant distribution in the base which allow the obtaining of generalized parameter formulas by considering the non-constant field and mobility in the base. Coefficients were derived that permitted conversion from diffusion transistor parameters to the corresponding parameters of drift transistors. Orig. art. has: 15 formulas and 2 figures.

Card 1/2

ACC NR: AT6022357

SUB CODE: 09/ SUBM DATE: 05Apr66/ ORIG REF: 008/ OTH REF: 005

Card 2/2

BOGACHEV, V.P.; KADYRZHANOV, K.K.

First experience in putting out fires in waste rock piles in the
Karaganda Basin. Nauch. trudy KNIUI no.16:38-42 '64. (MIRA 18:7)

BOGACHEV, V.P.

Investigating the effect of the composition of solutions on the
oxidizability of coal. Nauch. trudy KNIUI no.16:54-58 '64. (MIRA 18:7)

ZHURAVLEV, V.P.; SHILENKOV, V.N.; RYZHIKH, L.I.; POYELUYEV, A.P.; BOGACHEV, V.P.

Wetting of coal seams with solutions for the decrease of dust formation and coal loosening, as well as for the control of gas liberation and prevention of endogene fires. Ugol' 40 no.8:65-68 Ag '65.

(MIRA 18:8)

BOGACHEV, V.V.

More about fishes in the Akchagylia Sea. Izv. AN Turk. SSR no. 3:90
'56. (MLRA 9:12)

1. Institut geologii Akademii nauk Turkmenskoy SSR.
(Menshukly Hills--Fishes, Fossil)

БЕГАНОВ, Владимир Владимирович, 1881-

(Binagady, a cemetery of quaternary fauna on the Apsheron peninsula) Baku. Izd-vo
Azran, 1939. 83 p. (Nauchno-populiarnaya seriya.)

BOGACHEV, V.V.

Fishes of the Akchaghylian Sea (Monzhukly). Izv.AN Turk.SSR no.3:
25-32 '55. (MLRA 9:5)

1. Institut geologii AN Turkmenskoy SSR.
(Monzhukly hills--Fishes, Fossil)

BOGACHEV, V.V.

Fish remains from the Dervish Peninsula. Izv.AN Truk.SSR no.4:
23-27 '55. (MLRA 9:5)

1. Institut geologii AN Turkmen'skoy SSR.
(Dervish peninsula--Fishes, Fossil)

BOGACHEV, V. 

Lower Sarmatian fishes found near Ambrosievki. Dokl. AN SSSR 105
no. 3:570-572 N '55. (MIRA 9:3)

1. Predstavleno akademikom D.V. Malivkinym.
(Ambrosievki--Fishes, Fossil)

BOGACHEV, V.V.

New data on Akchagylian fishes of the Monshukly Hills. Izv. AN Turk. SSR no.1:103-104 '57. (MLRA 10:4)

1. Institut geologii AN Turkmenskoy SSR.
(Monszhukly Hills--Fishes, Fossil)

AUTHOR: Bogachev, V.V.

SOV/165-58-6-2/24

TITLE: First Cycle in the History of the Neogenic Ponto-Caspian Basin

PERIODICAL: Izvestiya Akademii nauk Turkmenskoy SSR, 1958, Nr 6,
pp 11-17 (USSR)

ABSTRACT: According to the conception of N.I. Andrusov and L.Sh. Davitashvili, the Ponto-Caspian Basin shows evidence of five recurring cycles of de- and re-salination in the Tertiary period with dying out of, first of all, stenogal and then eurigal fauna in the first part of each cycle and their reappearance in the second, is supplemented by the addition of a further cycle in the Olygocene epoch. As evidence thereof the individually described shell-fish from the collection of G.V. Bogachev, brother of the writer, serve this purpose.

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There are 2 tables with corresponding photos and 9 references, 4 of which are Soviet, 1 English and 4 German.

First Cycle in the History of the Neogenic Ponto-Caspian Basin

SOV/165-58-6-2/24

ASSOCIATION: Institut geologii AN Turkmenskoy SSR (Institute of Geology of
AS of the Turkmenian SSR)

SUBMITTED: January 10, 1958

Card 2/2

AUTHOR: Bogachev, V.V. (Simferopol') SOV/26-58-12-37/44

TITLE: Fossil Traces of Mammals in Armenia (Iskopayemyye sledy
mlekopitayushchikh v Armenii)

PERIODICAL: Priroda, 1958, Nr 12, p 122 (USSR)

ABSTRACT: The author points out that Mount Darri-dag near the town of Dzhul'fa in Transcaucasia is a rich mine of fossil traces including animal and plant imprints. He refers to a remark by N.K. Vereshchagin, the 1923 expedition of A.B. Shelkovnikov to Mount Darri-dag and environments, in which the author has participated, geologist K.A. Mashkovich's find of a fossil footprint of a lynx-like animal in 1930 and the recording of 18 fossil plant species there in 1947 by I.V. Palibin. The traces date back to Eocene and Oligocene periods and are highly similar to the numerous fossil traces discovered near the Goderzi Mountain Pass in the Georgian SSR, which are ascribed by some geologists to Pliocene formations, by others to Oligocene formations. There are 2 Soviet references.

Card 1/1

AUTHOR: Bogachev, V. V. SOV/20-122-4-53/57

TITLE: The Fish of the Pontian Sea (Ryby Ponticheskogo morya)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 4,
pp 727-729 (USSR)

ABSTRACT: The fish fauna of the Pontian Sea is insufficiently known. This is due, to a great extent, to the character of the sediments, however, also to the rare occurrence of this fauna. In his analysis of the fauna of the Ponto-Kaspiyskaya province, the author found only one group of endemides, namely herring; other forms either migrated from the Mediterranean Sea to the Pontian Sea or from fresh water. On the basis of a survey of publications (Ref 7, papers of I. F. Sintsov and N. I. Andrusov) the author gives a list of the fish species, as well as of those from the group of turtles, fish-eating birds and mammalia, which proves the above mentioned statements. The fresh water character of the Odessan chalk formed at the mouth of rivers, which flowed from the Ukrainskiy crystalline shield. The total character of the fauna of this chalk corresponds to that of the Azovskoye more (Azov Sea). In the basal layers of the

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The Fish of the Pontian Sea

SOV/20-122-4-53/57

Pontian chalk near khutor (farm) Yanov near Novocherkassk 2 fish skeletons (approximately 16-18 cm long) were found which were assigned by the author (in 1905) to the genus *Perca*. They were later lost. Then the author enumerates several finds of fish remains of the genera *Cyprinus* (apparently), *Clupea* of. *pohtica*. *Gadus minutus* L., *Gadus kwitkae* Bog. and small fish related to *Brosmius elongatus* Kramb. (described by N. M. Lednev). A. N. Svetovidov and P. G. Danil'chenko suggest several corrections. The herring were numerous in the Sarmatskoye (Sarmatian) Sea as well: diatom loams of the Kerchenskiy and Tamanskiy (Kerch and Taman) peninsula furnished large individuals for the author. Pontian herring are rather well known. A survey of publications follows (Ref 2,3). The Pontian herring are in general related with recent ones. In 1956 V. G. Stolyarov found a well conserved skeleton of a bream (*Abramis*, here described as *Abr. ponticus* sp. nov./*Blicca*?, Fig 1) in the chalk of the quarry of the village of Naumovka, rayon of Saki. It was given to the Krayevedcheskiy muzey (Museum of Regional Studies) of Simferopol'. A description is given. Finally the author mentions

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The Fish of the Pontian Sea

SOV/20-122-4-53/57

fish remains from West Siberia which had been put at his disposal by N. K. Vysotskiy and A. A. Krasnopol'skiy. He mentions this since bream remains were among them, i. e. of species which no longer occur in Siberia today, but which are, however, represented by other species (Parabramis) in the Far East. There are 1 figure and 6 references, 5 of which are Soviet.

PRESENTED: May 23, 1958, by Ye. N. Pavlovskiy, Academician

SUBMITTED: April 25, 1958

Card 3/3

BOGACHEN, V.V.

Unionidae from terraces in the Salgir Valley. Trudy Inst.min.
resur.AN URSR no.1:31-39 '59. (MIRA 12:8)
(Salgir Valley--Unionidae)

BOGACHEV, V.V.

Cetacean remains in the Oligocene of Tsimlyansk village. Trudy
Inst.min.resur.AN URSR no.1:40-42 '59. (MIRA 12:8)
(Donets Basin--Cetacea, Fossil)

BOGACHEV, V.V.

Comments on L.A.Nevesskaia's work "Quaternary marine mollusks of Turkmenistan." Izv.AN Turk.SSR no.4:81-82 '59. (MIRA 13:8)

1. Institut geologii AN Turkmenskoy SSR.
(Turkmenistan--Mollusks, Fossil)
(Nevesskaia, L.A.)

BOGACHEV, V. V.

Homeomorphy in the development of brackish-water in Asia Minor and the Caspian Sea. Izv. AN Azerb. SSR. Ser. geol.-geog. nauk no.3:27-35 '60. (MIRA 13:10)

(Asia, Minor--Lamellibranchiata)

(Caspian Sea region--Lamellibranchiata)

BOGACHEV, Y.V., prof.

Puzzling paleontological discovery. Priroda 48 no.6:103 Je '59.
(MIRA 12:5)

1. Institut mineral'nykh resursov AN USSR, Simferopol'.
(Crimea--Graptolites)

BOGACHEV, V.Y.

Maeotic mountain goat in the Crimea. Trudy AzNII DN no.9:64-
70 '60. (MIRA 14:5)
(Crimea--Bovidae, Fossil)

BOGACHEV, V.V.

New Pontian turtle from the Crimea. Trudy AzNII DN no.10:88-92
'60. (MIRA 14:4)

(Crimea--Turtles, Fossil)

BOGACHEV, V.Y.

Oil-bearing fresh-water sediments. Azerb. neft. khoz. 39 no.7:4-5
J1 '60.

(MIRA 13:10)

(Fresh-water fauna)

BOGACHEV, V.V.

Fresh water equivalents of the productive series of the Apsheron Peninsula in the ancient Kama-Volga Basin. Izv. AN Azerb. SSR. Ser. geol.-geog. nauk no.1:57-62 '60. (MIRA 13:11)
(Apsheron Peninsula--Sediments (Geology))

ALI-ZADE, A.A.; BOGACHEV, V.V., red.; AL'TMAN, T.B., tekhn. red.

[Akchaghy] representatives of the genus] Akchagyl'skie predstav-
teli roda Dreissensia. Baku, Azerbaidzhanskoe gos. izd-vo, 1961.
63 p. (MIRA 14:8)

(Turkmenistan—Mollusks)

BOGACHEV, Vladimir Vladimirovich; KOVALEVSKIY, S.A., otv. red.; ZAVIRYU-
KHINA, V.N., red. 1zd-va; LISOVETS, A.M., tekhn. red.

[Materials on the history of Eurasian fresh-water fauna] Materialy
k istorii presnovodnoi fauny Evrazii. Kiev, Izd-vo Akad. nauk
USSR, 1961. 403 p. (MIRA 14:10)
(Fresh-water fauna)

BOGACHEV, V.V.

More on Pliocene deposits in the southern part of Western Siberia.
Mat. po ist. fauny i flory Kazakh. 3:62-67 '61.

(MIRA 14:7)

(Siberia, Western--Paleontology, Stratigraphic)

BOGACHEV, V.V.

The last mastodons in the Caucasus. Izv. AN Azerb. SSR Ser.
geol.-geog. nauk i nefti no.5:81-85 '62. (MIRA 16:6)

(Caucasus—Mastodon)

BOGACHEV, V.V.

Cyprinodontidae in Triassic sediments of Transcaucasia. Izv.
AN Arm.SSR.Geol.i geog.nauki 15 no.1:17-31 '62. (MIRA 15:3)
(Transcaucasia--Cyprinodontes, Fossil)

BOGACHEV, V.V.

Former distribution of naiads in Siberia and Kazakhstan. Mat. po
ist. fauny i flory Kazakh. 4:214-217 '63. (MIRA 16:9)
(Siberia—Unionidae, Fossil)
(Kazakhstan—Unionidae, Fossil)

BOGACHEV, V. Ye.

62-58-4-6/32

AUTHORS: Knunyants, I. L., Sterlin, R. N., Bogachev, V. Ye.

TITLE: Reaction of Fluorolefines (Reaktsiy fluorolefinov)
Communication 2. The Synthesis of 2-Iodoperfluoropropylene
and Some of its Properties (Soobshcheniye 2. Polucheniye
i nekotoryye svoystva 2-yodperftorpropilena)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk,
1958, Nr 4, pp. 425-427 (USSR)

ABSTRACT: The most simple way of producing the second member of the
perfluorovinyl-iodide series would be the dehydrohalo-
genation of 1-chloro-2-iodo-2-hydroperfluoropropane. This
can be reached by interaction of 2-hydroperfluoro propylene
with iodine chloride-. From papers dealing with the com-
pounds of alcohols with fluorolefines the conclusion can
be drawn that with the increase of the polarity of the
olefines the alcohols more easily combine with these fluoro-
fines. There are, however, no concrete data on the number
of references. The authors describe in this paper

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62-58-4-6/32

Reaction of Fluorolefines. Communication 2. The Synthesis of 2-Iodo-perfluoropropylene and Some of its Properties

the synthesization of perfluoroisopropenyl iodide by combination of ethyl alcohol with perfluoroisopropenyl iodide. The earlier not described 1-methoxy-2-iodo-2-hydroperfluoropropane was produced. By saponification of this ester methyl esters of the α -iodo- α -hydroperfluoropropionic acid was produced. By dehalogenating^{of} this substance the methyl ester of 2-difluoroalkylic acid was produced. There are 7 references,

ASSOCIATION: Institut elementoorganicheskikh soedineniy Akademii nauk SSSR (Institute for ~~Elemental-organic~~ Compounds, AS USSR)

SUBMITTED: November 20, 1956

AVAILABLE: Library of Congress

Card 2/2 1. Fluorolefines--Reaction 2. Iodoperfluoropropylene--Properties

5.3600

77072
SOV/62-59-12-16/43

AUTHORS: Sterlin, R. N., Bogachev, V. ~~V. G.~~, Yatsenko, R. D.,
Knunyants, I. L.

TITLE: Reactions of Fluoroolefins. Communication 10. Concerning
the Dependence of Chemical Properties of Fluoroolefins
on Polarity

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdelenie khimicheskikh
nauk, 1959, Nr 12, pp 2151-2155 (USSR)

ABSTRACT: 2-Diethylamino-1,2,2-trifluoro-1-bromoethane (I)
(bp 58° at 17 mm) was obtained by shaking perfluorovinyl
bromide with diethylamine, at room temperature, for
2 hours. On hydrolysis of (I) with water, the diethyl-
amide of fluorobromoacetic acid (bp 93° at 4 mm) was ob-
tained in 85% yield. It was shown that the reaction rate
of addition of diethylamine to perfluorovinyl halides
increases with increasing polarity of the olefin molecule.
Diethylamine reacts vigorously with diethylamide of
fluoroacetic acid; it almost fails to react with the
diethylamide of chloroacetic acid, and reacts very slowly

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Reactions of Fluoroolefins. Communication 10.
Concerning the Dependence of Chemical
Properties of Fluoroolefins on Polarity

77072

SOV/62-59-12-16/43

with 2-diethylamino-1,2,2-trifluoro-1-bromo- (or
~~chloro~~) -ethane. There is 1 figure; 4 tables; and
5 references, 1 German, 1 U.K., 3 U.S. The 4 U.S.
and U.K. references are: R. N. Haszeldine, J. Chem.
Soc. 4259 (1952), A. Giacomo, R. Swith, J. Am. Chem.
Soc. 77, 774 (1954); G. Rigby, H. Schroeder, U.S.
pat 2409315 (1946); Hurwitz, W. Miller, Abstracts of
Papers 114th Meeting, J. Am. Chem. Soc. 41 (1948).

SUBMITTED: March 31, 1958

Card 2/2

L 4955-66 EWT(m)/EPF(c)/EWP(j) RM

ACC NR: AP5025682

SOURCE CODE: UR/0286/65/000/018/0028/0028

AUTHOR: Bogachev, V. Ye.

ORG: none

TITLE: Method for obtaining alkylthiocarbamoyl thiocarbazanes, aldehydes, or ketones. Class 12, No. 174635 /announced by Organization of the Ministry of Defense SSSR (Organizatsiya ministerstva oborony SSSR)/

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 18, 1965, 28

TOPIC TAGS: carbazied, thiocarbazied, aldehyde, ketone, catalyst

ABSTRACT: This Author Certificate presents a method for obtaining alkylthiocarbamoyl-thiocarbazanes, aldehydes, or ketones. The method consists of refluxing the aldehydes or ketones with an aqueous alcoholic solution of alkylthiocarbamoyl-thiocarbazide in the presence of catalytic quantities of acid with the subsequent separation of the product by the usual means.

SUB CODE: OC/

SUBM DATE: 16Sep64

Card 1/1

UDC: 547.288.3.07 547.388.3.07

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S/258/62/002/002/003/018

1028/1228

AUTHOR: Bogacheva, A. A. and Galkin, V. S. (Moscow)

TITLE: Strong interaction on a plate with allowance for sliding and partition temperature jump

PERIODICAL: Inzhenernyy zhurnal, v. 2, no. 2, 1962, 231-238

TEXT: The problem of the motion of an ideal gas in the laminar boundary by a plane half-infinite plates under conditions of strong interaction between the boundary layer and the hypersonic non-viscous flow, is solved for a zero angle of attack with allowance for sliding and a gas temperature jump at the wall. The rarefaction and entropy effects accompanying this flow can be studied separately by varying suitably the boundary conditions for the boundary layer equations. It is assumed that the viscosity is a linear function of T , and that $Pr=1$. The pressure is calculated using the method of tangential wedges. The equations of the boundary layer and the boundary conditions are written in non-dimensional variables: systems of equations and corresponding boundary conditions, in the zero and first approximations are obtained from them. The zero and first approximations were solved simultaneously on a fast computer, and some rounded results are presented in tables and graphs. The following cases are considered: $T_w/T_0=1$ (insulated plate), 0.6, 0.2 (cooled plate); $\gamma = 1.4, 5/3$ (γ = specific-heat ratio, T_w = wall temperature, T_0 = stagnation gas stream temperature). The results show that: a) for $T_w/T_0 = 1$ the sliding increases the gas velocity and decreases its temperature, b) the role of the temperature jump increases with the decrease of T_w/T_0 , c) for $T_w/T_0 \leq 1$ the sliding and

Card 1/2

Strong interaction on a...

S/258/62/002/002/003/018
1028/1228

the temperature jump decreases the pressure, the dislodgment thickness, the local coefficient of frictional resistance and the coefficient of heat transfer from the gas to the plate. It is established that the representation of the velocity profile by a polynomial of the fourth power is sufficiently accurate, and that a linear profile can be used only for very rough calculations. There are 3 figures and 4 tables.

SUBMITTED: February 12, 1962

Card 2/2

BOGACHEVA, A.A. (Moskva); LADYZHENSKIY, M.D. (Moskva)

Hypersonic flow about slender blunt elliptic cones. Inzh.zhur.
2 no.3:14-20 '62. (MIRA 15:8)
(Aerodynamics, Hypersonic)

41506

S/040/62/026/005/003/016
D234/D308

26.1410
AUTHORS:

Bogacheva, A. A. and Ladyzhevskiy, M. D. (Moscow)

TITLE:

A self-modelling solution of magnetohydrodynamic equations

PERIODICAL: Prikladnaya matematika i mekhanika, v. 26, no. 5, 1962, 821-835

TEXT: The authors consider a plane stationary nonviscous supersonic flow around a wedge, assuming that there are surface currents on the edge whose intensity is inversely proportional to the square root of the distance from the wedge vertex, the conductivity is equal to zero in front of the shock wave and finite in the disturbed flow domain, the transition across the shock wave is described by the same relations as in absence of a magnetic field. Introducing an independent variable $\eta = y/x$ the authors obtain a system of three ordinary differential equations, which are investigated on the hodograph plane of the velocity. When the angle between the undisturbed flow direction and one of the lines forming the edge is smaller

Card 1/2

A self-modelling solution...

S/040/62/026/005/003/016
D234/D308

than a certain limiting value (e.g. $45^{0.35}$ for the adiabatic exponent equal to 1.4) there are two solutions I going over into non-magnetic solutions when the field intensity tends to 0, and an infinite set of solutions II, for which the angle of inclination of the shock wave takes any value between two values obtained from the solution I. The solutions II have no analog in ordinary hydrodynamics, they are characterized by zero velocity on the wedge surface. The authors assume that in actual cases the solution I will be realized, owing to the condition of continuous dependence of the solution on the field intensity. Numerical examples are given. There are 11 figures.

SUBMITTED: June 18, 1962

Card 2/2

BOGACHEVA, A.G.

KHARITONOV, S.I.; SHTUMPF, A.G.; GREK, A.V.; TSYMBALYUK, A.G.; KAZNACHEYEV, I.M.; ~~BOGACHEVA, A.G.~~

Response to V.D. Avramenko's article "For a fundamental change in the system of standardizing the quality of coal" ("Ugol'" no.2. 1955). Ugol' 30 no.9:43-45 S'55. (MLBA 8:12)

1. Trest Molotovugol' kombinata-Kuzbassugol' (for Kharitonov)
 2. Shakhta "Kapital'naya-1" tresta Molotovugol' (for Shtumpf)
 3. Nachal'nik Otdela standartizatsii Vsesoyuznogo nauchno-issledovatel'skogo instituta Ugleobogashcheniya (for Grek)
 4. Toplivnaya inspektsiya M.P.S. po Kuzbassu "Sibtranstop" (for TSymbalyuk and Kaznachev)
 5. Nachal'nik Otdela tekhnicheskogo kontrolya shakhty no.4 "Yurkovskaya" (for Bogacheva)
- (Coal--Standards) (Avramenko, F.D.)

BOGACHEVA-A.N.

Effect of waist procaine block on motor function of the digestive apparatus. V. G. Prokopenko, L. S. Romanova, and A. N. Bogacheva (A. V. Vishnevskii Surgical Inst., Moscow). *Fiziologiya* 21:7. S.S.S.R. 42, 180-6 (1956).—Aseptic inflammation caused by turpentine injection in a dog's hip disturbs the function of the total digestive apparatus; procaine block at the waist in such a case restores the disturbed functions more rapidly than is observable without such a block. G. M. Kosolapoff

BOGACHEVA, A.V.

1(1,2)

PHASE I BOOK EXPLOITATION SOV/3114

Avtomaticheskoye regulirovaniye aviadvigateley; sbornik statey, vyp. 1 (Automatic Control of Aircraft Engines; Collection of Articles, Nr 1) Moscow, Oborongiz, 1959. 182 p. Errata slip inserted. 3,400 copies printed.

Ed. (Title page): A.A. Shevyakov; Ed. (Inside book): S.I. Bumshteyn; Ed. of Publishing House: N.A. Gortsuyeva; Tech. Ed.: N.A. Pukhlikova; Managing Ed.: A.S. Zaymovskaya, Engineer.

PURPOSE: This book is intended for workers at scientific research institutions and design bureaus.

COVERAGE: This book contains three articles in which results of the investigation of pressure-ratio regulator characteristics are described. These regulators work on the principle of small drops and proportion reduction and may be used in aircraft engines. A thorough analysis of a laminar flow of air in capillary conduits of automatic regulating systems is given. Problems connected with the calculation of centrifugal atomizers in which viscosity

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of the working fluid is taken into consideration are discussed in a special article.

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4. Evaluation of errors in instruments which transform a change in gas pressure ratio into a displacement of the mechanical element 14
 5. Remarks on errors of some other pressure ratio indicators 16
- Ch. II. Analysis of Errors of Gas Pressure Ratio Indicators
Beyond the Limits of the Proportional Reduction of Pressure. Use of Jet Pumps for Artificial Lowering of Pressure in the Outlet From the Interthrottle Chamber in Gas Pressure Ratio Regulators 18
1. Errors connected with exceeding the limits of the proportional reduction of the gas pressure 18
 2. Use of jet pumps for creating an over-critical flow at the outlet from the interthrottle chamber. Experimental investigation of characteristics of jet pumps intended for gas pressure ratio regulators 20
- Ch. III. Investigation of Characteristics of Membranes of Pressure Ratio Regulators 29

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1. Problems of investigation. Testing methods 29
2. Testing results 29

Bogacheva, A.V. Investigation of a Laminar Flow of Air in
Capillary Conduits of Pneumatic System Elements 74

The author states that experiments determined a functional dependence of the resistance coefficient and the coefficient of input μ_n in an adiabatically insulated laminar flow of a viscous compressible gas in long plane capillary conduits, on the determining dimensionless parameters: geometric parameters of the conduit, Reynolds number, reduced velocity of the flow (or pressure ratio), and the dimensionless velocity of the moving wall of the conduit.

Prakhov, A.M. Investigation and Calculation of Centrifugal Injectors 113

The author's method of investigation and calculation of centrifugal injectors is based on the analysis of a number of former methods. He takes into consideration the viscosity of the working fluid on the basis of the equation of the quantity of motion. Consideration of actual processes taking place in the

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injector should be avoided. The problem was restricted to a one-stage centrifugal atomizer. However, the calculation of the problem made possible the consideration of more complicated atomizers.

AVAILABLE: Library of Congress

Card 5/5

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4-14-60

~~BOGACHEVA, A. V.~~

"Results of the Theoretical and Experimental Investigations of the Air Flow in Capillary Tubes."

report presented at the Scientific Seminar on Pneumo-Hydraulic Automation, 28-29 May 1957, at the Isnt. for Automation and Remote Control (IAT), Acad. Sci. USSR

Avtomika i Telemekhanika, 1957, Vol. 18, No. 12, pp. 1148-1150, (Author SEMIKOVA, A. I.)

Bo G A C H E U A , A . U

- 28(1) PHASE I BOOK EXPLOITATION SOV/2702
- Aludeniya nauk SSSR. Institut avtomatiki i telemekhaniki. Seminar po pnevmogidravlicheskoy avtomatike. 1st, Moscow, 1957
- Sistemy, ustroystva i elementy pnevm. i gidrav. avtomatiki. (Pneumatic and Hydraulic Systems and Elements of Pneumatic Automation). Collection of Papers. 1st, Moscow, 1959. 233 p. Errata slip inserted. 2,700 copies printed.
- Red. Ed.: N. A. Ayzerman, Doctor of Technical Sciences, Professor; Ed. of Publishing House: A. A. Tal'; Tech. Ed.: T. P. Polyakova.
- FOREWORD: This collection of papers is intended for scientific research workers and engineers in the field of design and construction of pneumatic and hydraulic equipment and accessories for automation.
- COVERAGE: This collection contains papers read at the Seminar on Pneumatic and Hydraulic Devices for Automation, May 28, 1957. The collection is divided into the following three groups: 1) newly developed pneumatic and hydraulic circuits 2) pneumatic and hydraulic devices, including regulating units, transmitters and transducers, actuating mechanisms, special-purpose devices, and auxiliary equipment and 3) elements of pneumatic and hydraulic devices for automation, such as controlled and permanent contacts and diaphragms. No personalities are mentioned. References follow the end of the papers.
- Andreyev, Ya. A. Roscopy. Calculating the Static Characteristics of Back-pressure Type Elements 172
- This paper deals with a theoretical analysis of back-pressure type elements. Flow of fluid, pressure distribution on plates, and general characteristics are discussed.
- Shustrik, E. P. Roscopy. Results of Experimental and Theoretical Investigations of Back-pressure Type Control Devices 181
- Boxchaya, A. V. Roscopy. High-velocity Laminar Air Flow in Flat Capillary Channels 194
- This paper discusses air flow in flat capillary channels at varying pressures. The flow rate is experimentally investigated and results shown graphically. Charts to be used for determining resistance coefficients and flow rates are presented.
- Kichin, I. N. Roscopy. Nozzle Clogging and Methods of Combating 205
- The tendency of certain working fluids toward nozzle and slit clogging is examined. Minimum nozzle diameters and slit sections at which the fluid flow rate remains stable are determined. Some practical methods of combating clogging are presented.
- Diaphragms
- Agashev, V. V. Roscopy. On Variation of Effective Areas of Flexible Diaphragms 216
- Changes in the magnitude of effective areas of corrugated diaphragms during the stroke are analyzed and their significance in the design of a KUTMA pneumatic regulator discussed.
- Mach, Yu. I. and G. P. Stepanov. Roscopy. Investigation of Characteristics of Diaphragms Used in Sensitive Elements of Regulators 224
- Characteristics of rubberized-fabric diaphragms made from various materials are discussed. The amount of hysteresis in relation to the stroke and the influence of the temperature of the surrounding medium are investigated. Test results of beryllium-bronze diaphragms are presented.

ACC NR: AM6036732

Monograph

UR/

Bogacheva, Antonina Vasil'yevna

Pneumatic elements of automatic control systems; static calculation of flow elements (Pnevmaticheskiye elementy sistem avtomaticheskogo upravleniya; staticheskiy raschet protochnykh elementov) Moscow, Izd-vo "Mashinostroyeniye", 66. 239 p. illus., biblio. Errata slip inserted. 9,000 copies printed.

TOPIC TAGS: automation, pneumatic device, pneumatic control

PURPOSE AND COVERAGE: This book is intended for industrial engineers and technicians and builders and designers of construction departments concerned with industrial automation. Results of theoretical and experimental study of pneumatic elements and methods of their design are discussed. Graphs and experimental characteristics are given, thus making it possible to determine the parameters of pneumatic devices and carry out a comparative analysis of calculated and experimental data. No personalities are mentioned. There are 124 references: 105 Soviet and 19 non-Soviet.

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UDC: 62.5

ACC NRAM6036732

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Ch. II. Gas movement in pneumatic elements and devices -- 25

Ch. III. Elements of pneumatic devices -- 48

Ch. IV. Pneumatic devices in automatic control and monitoring systems -- 90

Ch. V. Resistance loss in pneumatic automation elements -- 109

Ch. VI. Efficiency. Expansion of compressed gas flow -- 141

Ch. VII. Heat exchange processes in the elements and devices of pneumatic automation -- 193

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SUB CODE: 13/ SUBM DATE: 07Jul66/ ORIG REF: 102/ OTH REF: 022

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BOGACHEVA, E.A.

Articles published in the international journal "Teplo- i
massoperenos," November, 1962. Inzh.-fiz.zhur. 6 no.2:139-
140 F '63. (MIRA 16:1)
(Heat-Periodicals) (Mass transfer-Periodicals)

PIRSON, Dzh.T.[Pearson, J.T.]; IRVIN, T.F.[Irvine, T.F.];
BOGACHEVA, E.A.[translator]

Model study of turbulent heat transfer of liquid metals in the
entrance region of noncircular tubes. Inzh.-fiz. zhur. 6 no.6:
10-19 Je '63. (MIRA 16:6)

1. Gosudarstvennyy universitet, N'yu-York, SShA.
(Liquid metal)
(Thermodynamics—Electromechanical analogies)

BOGACHEVA, E.P. [translator]

Nomenclature of welding processes [from document MIS-80-61 of
the International Institute of Welding]. Svar.proizv. no.1:39-
41 Ja '62. (MIRA 15:3)

(Welding--Terminology)

BOGACHEVA, E.P. [translator]

Annual report of Commission 3 on "Resistance Welding" at the
14th Congress of the International Institute of Welding. Svar.
proizv. no.2:39-40 F '62. (MIRA 15:2)
(Electric welding---Congresses)

BOGACHEVA, E.P. [translator]

List of materials of the International Institute of Welding
received by the National Committee of the U.S.S.R. on Welding,
from April to September 1961. Svar. proizv. no.2:40-41 F '62.
(MIRA 15:2)

(Welding—Congresses)

BOGACHEVA, E.P. [translator]

Annual report of the 14th Congress of the International Welding
Institute from Committee No. 11 on "Boilers, vessels and
pipelines operating under pressure." Svar. proizv. no.6:44-45
Je '62. (MIRA 15:6)
(Pressure vessels) (Welding--Congresses)

BOGACHEVA, E.P. [translator]

List of materials received by the U.S.S.R. National Welding
Commission between October 1961 and April 1962 from the International
Institute of Welding. Svar. proizv. no.6:45 Je '62. (MIRA 15:6)
(Welding research)

BOGACHEVA, E.A.

Contents of the international journal "Heat and mass transfer,"
vol.6, no.7, July 1963. Inzh.-fiz.zhur. 6 no.10:140-141 0 '63.
(MIRA 16:11)

L 04590-67 EWT(m)/EWP(t)/ETI IJP(c) JD/JG

ACC NR: AP6033450

SOURCE CODE: UR/0413/66/000/018/0032/0032

INVENTOR: Krysin, Ye. P.; Manzhak, Yu. M.; Bogacheva, E. S.

ORG: none

TITLE: Method of obtaining osmium tetroxide. Class 12, No. 185865 [announced by the State Chemical Plant im. Voykov (Gosudarstvennyy khimicheskiy zavod)]

SOURCE: Izobret prom obraz tov zn, no. 18, 1966, 32

TOPIC TAGS: osmium, osmium tetroxide, osmium oxidation, osmium tetroxide synthesis, *OSMIUM COMPOUND, CHEMICAL SYNTHESIS, HIGH TEMPERATURE OXIDATION*

ABSTRACT: This Author Certificate introduces a method of synthesizing osmium tetroxide by oxidation of metallic osmium with oxygen at high temperature. To increase the output, oxidation is done in a fluidized bed with oxygen mixed with 1—25% of nitrogen in two steps: first to osmium dioxide at 700—900C, with final oxidation to osmium tetroxide at 800—1200C.

SUB CODE: 0711/ SUBM DATE: 07Oct65/ ATD PRESS: 5100

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UDC: 661.894

BOGACHEVA, G. N.

USSR/Metals - Steel, Transformation

11 Mar 52

"Concerning the Effect of Quenching Temperature on the Amount of Residual Austenite in Steel," V. D. Sadovskiy, G. N. Bogacheva, Inst of the Physics of Metals, Ural Branch, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol LXXVIII, No 2, pp 221, 222

Disputes conclusion made by Americans W. J. Harris and M. Cohen (Metal Technol, 15, No 6, 1948; Trans Am Soc for Metals, 41, 1949) concerning changes in side of austenite when temp rises or decreases in range of austenitic state. Presents results of studying the effect of heating conditions on amt of residual austenite and claims that phenomenon,

214764

described by American authors, actually is caused by strong graphitizing action of Ni, this ability of Ni not being properly treated by them. Submitted by Acad I. P. Bardin 18 Jan 52.

214764

BOGACHEVA, G. N.

PA 234T51

USSR/Metallurgy - Steel, Structure

Apr 52

"On Stabilization of Austenite in Respect to Martensitic Transformation," G. N. Bogacheva, V. D. Sadovskiy, Inst of Phys of Metals, Ural Affiliate, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol 83, No 4, pp 569-572

Disputes assumption of certain investigators that austenite stabilization can occur without previous decomposition of austenite to martensite, referring chiefly to American investigators E. Klier and A. Troiano (Metals Technology, Vol 12, No 2, 1945).

234T51

Concludes that stabilization takes place only in presence of martensite which undergoes decomposition during heatings and holdings for stabilization of austenite. Submitted by Acad I. P. Bardin 8 Feb 52.

234T51

SOV/137-57-10-20095

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 10, p 236 (USSR)

AUTHORS: Bogacheva, G.N., Sadovskiy, V.D.

TITLE: Recrystallization in the Heating of Eutectoid Aluminum
Bronze (Perekristallizatsiya pri nagreve evtektoidnoy alyumi-
niyevoy bronzy)

PERIODICAL: Tr. In-ta fiz. metallov. Ural'skiy fil. AN SSSR, 1956, Nr
17, pp 125-138

ABSTRACT: Specimens of Al bronze (12.11% Al) are used to study the structural mechanism of recrystallization upon heating. The kinetics of the $\beta' \rightarrow \beta$ transformation upon heating are studied by dilatometry, samples prehardened to martensite being employed. Comparatively rapid heating (200-300°C/min) does not result in recrystallization, and the grain reveals high stability. Phase transformation setting in at 420°, according to the dilatometric curves, proceeds within the existing grains, and the recrystallization process is not accompanied by recrystallization of solid β solution owing to internal work-hardening during

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SOV/137-57-10-20095

Recrystallization in the Heating of Eutectoid Aluminum Bronze

the reverse martensite transformation. However, slow heating of quenched bronze to above the critical point (750°) results in intensive grain growth in the β phase. This growth may also be induced in fast heating if the specimens are first tempered at $450-500^{\circ}$. Thus it is shown that the tendency to grain growth is acquired as the result of structural transformations in solid β solution at $450-500^{\circ}$ only.

A.Z.

Card 2/2

SOV/124-58-11-13627

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 11, p 233 (USSR)

AUTHORS: Sadovskiy, V. D. , Malyshev, K. A. , Sokolov, Ye. N. , Smirnov, L. V. ,
Bogacheva, G. N. , Biryulin, V. T. , Petrova, S. N.

TITLE: The Influence of High-temperature Plastic Deformation on the Temper
and Aging Brittleness of Quenched Steels (Vliyaniye plasticheskoy
deformatsii pri vysokikh temperaturakh na khrupkost' pri otpuske i
starenii zakalennykh staley)

PERIODICAL: V sb.: Issled. po zharoprochn. splavam. Vol 2. Moscow, AN SSSR,
1957, pp 76-91

ABSTRACT: As a result of tests it was found that the brittleness developed upon
aging of austenite steel of the 60Kh4G8N8V type, as well as upon aging
of industrial high-temperature steel, can be held down through the
application of a combined thermomechanical treatment consisting of
the quench-hardening of a plastically deformed nonrecrystallized
austenite. The authors explain the effect of the thermomechanical
treatment by the sharp localization of the deformation, which at
elevated temperatures proceeds along the grain boundary, which leads
to a reduction in the unfavorable effect of the phases that separate out

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SOV/124-58-11-13627

The Influence of High-temperature Plastic Deformation (cont.)

along the boundaries during the tempering and contribute to the development of the brittleness.

D. M. Vasil'yev

Card 2/2

SOV/126-7-1-14/28
AUTHORS: Malyshev, K.A., Bogacheva, G.N., Sadovskiy, V.D. and
Ustyugov, P.A.

TITLE: Influence of the Temperature of Plastic Deformation on the
Structure and Impact Strength of Austenitic Steel
(Vliyaniye temperatury plasticheskoy deformatsii na
strukturu i udarnuyu vyazkost' austenitnoy stali)

PERIODICAL: Fizika Metallov i Metallovedeniye, 1959, Vol 7, Nr 1,
pp 102-109 (USSR)

ABSTRACT: In this paper the structure of austenitic steel, deformed
by rolling at various temperatures, was investigated, and
it was endeavoured to establish a relationship between the
change in structure and mechanical properties in the
ductile and brittle states (the last after ageing).
Experiments were carried out with the austenitic steel
60Kh4G8N8V. Specimens of this steel, 11 x 11 x 60 mm,
were deformed in laboratory hand-rollers at various
temperatures between room temperature and 1200°C (at
50° intervals). Reduction in area in all cases was
Card 1/6 about 30%. Rolling speed was 13 mm/sec in all cases.

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Influence of the Temperature of Plastic Deformation on the Structure and Impact Strength of Austenitic Steel

Prior to deformation, all specimens were heated to 1150° and held there for 20 minutes. Deformation at temperatures below 500°C was carried out on specimens which had been quenched from 1150°C. For deformation at higher temperatures specimens, which had been heated to 1150°C, were cooled to the required temperatures. In order to avoid recrystallisation the specimens were cooled in water immediately after deformation. In order to bring out slip lines the deformed specimens, prior to being made into micro-sections, were aged at 700°C for two hours. A notch, 2mm deep, was made in the deformed specimens for impact testing. As the toughness of austenitic steel, cooled in water after deformation, is very great, impact tests were carried out at liquid nitrogen temperatures. Under certain conditions the investigated austenitic steel suffers very intense ageing which greatly lowers its impact strength. The influence of the preliminary plastic deformation of austenite on the impact resistance of the steel under conditions of prolonged ageing was studied by testing the impact resistance of deformed

Card 2/6 specimens which had been aged for a long time. The impact

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Influence of the Temperature of Plastic Deformation on the Structure and Impact Strength of Austenitic Steel

test in this case was carried out at room temperature. Fig. 1 shows the influence of the temperature of deformation on the structure of austenite; (a) deformation at 20°C; (6) at 150°C; (8) at 300°C; (7) at 500°C. In Fig.2 the influence of deformation temperature on the structure of austenite is again shown: (a) deformation at 700°C; (6) at 850°C; (8) at 1050°C; (7) at 1200°C. Fig.3 shows the appearance of grain boundaries after high temperature deformation. Fig.4 shows the structure of the specimen deformed at room temperature after partial recrystallisation. Fig.5 shows the structure of a specimen deformed at 450°C after partial recrystallisation. Fig.6 shows the structure of a specimen deformed at 850°C after partial recrystallisation. In Figs.7 and 8 the results of hardness and impact strength tests of austenitic steel specimens deformed by 30% by rolling at temperatures of 20, 400, 500, 900, 1000 and 1100°C, and water cooled, are shown. The deformed specimens were tested at liquid nitrogen temperature (Fig.7) and at room temperature (Fig.8). The results of impact strength and hardness determinations of deformed and un-deformed

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Influence of the Temperature of Plastic Deformation on the Structure and Impact Strength of Austenitic Steel

specimens are shown in Fig.9. The change in structure of austenite with rise in deformation temperature is on the whole analogous to results obtained for polycrystalline pure aluminium (Refs.1-5), and permits a conclusion about the mechanism of plastic deformation to be drawn. At low temperatures deformation occurs by slip. As the temperature rises this is replaced by block formation. The absence of slip lines within the grains of austenite deformed at high temperatures, and the fact that recrystallisation develops along the grain boundaries, is a proof that deformation becomes increasingly localised in the grain boundaries as the temperature rises. The present investigation has been carried out under conditions of great deformation speed and large reductions, i.e. under conditions approaching those of hot rolling. The results obtained lead to the conclusion that the mechanism of block formation and diffusion plasticity observed at high temperatures is not an exceptional characteristic of metal creep under load, but is the basis for the actual process of mechanical deformation of metals

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SOV/126-7-1-14/28

Influence of the Temperature of Plastic Deformation on the Structure and Impact Strength of Austenitic Steel

at high temperatures. Hence it can be assumed that raising the temperature exercises a stronger influence on the change of the mechanism of plastic deformation than change in deformation speed. The mechanical properties of austenite deformed at various temperatures without relaxation and recrystallisation can be related to the structure and mechanism of mechanical deformation. Deformation of austenite at 400-450°C gives a more favourable combination between impact strength and hardness than cold deformation. The experiment has shown that working of austenite in the temperature range 900-1100°C leads to a distinct decrease in brittleness of the austenitic steel which is normally caused by lengthy ageing. This decrease in brittleness may be associated with the mechanism of plastic deformation (block formation) and the jagged shape of the boundaries of deformed grains which lengthens the intergranular boundaries and renders intergranular fracture more difficult.

There are 9 figures and 8 references, of which 3 are English
Card 5/6 and 5 Soviet.

SOV/126-7-1-14/28

Influence of the Temperature of Plastic Deformation on the Structure
and Impact Strength of Austenitic Steel

ASSOCIATION: Institut fiziki metallov AN SSSR (Institute of Metal
Physics, Ac.Sc. USSR); Ural'skiy zavod tyazhelogo
mashinostroyeniya imeni S. Ordzhonikidze (Ural Establish-
ment of Heavy Machine-building imeni S. Ordzhonikidze).

SUBMITTED: November 19, 1957

Card 6/6

SADOVSKIY, V.D.; BOGACHEVA, G.N.; SMIRNOV, L.V.; SOROKIN, I.P.; KOMPANEYTSYEV,
N.A.

Investigating phase recrystallization in titanium. Fiz. met. i
metalloved. 10 no.3:397-403 S '60. (MIRA 13:10)

1. Institut fiziki metallov AN SSSR.
(Titanium--Metallography)
(Phase rule and equilibrium)

BOGACHEVA, G. N.

PHASE I BOOK EXPLOITATION SOV/5511
Nauchno-tekhnicheskoye obshchestvo mashinostroitel'noy promyshlennosti.
Kiyevskoye oblasnoye pravleniye.

Metallovedeniye i termicheskaya obrabotka (fizikal'no-khimiya i heat
Treatment of Metals) Moscow, Mashgiz, 1961. 356 p. 32x56 slip
inserted. 5,000 copies printed.

Spetsialnyy Agenty: Gosudarstvennyy nauchno-tekhnicheskyy komitet
Sovetskaya Ministroy UkrSSR. Nauchno-tekhnicheskoye obshchestvo
mashinostroitel'noy promyshlennosti. Kiyevskoye oblasnoye
pravleniye.

Editorial Board: M. F. Braun, Doctor of Technical Sciences, I. Ya.
Dekhtyar, Doctor of Technical Sciences, D. A. Draygor, Doctor of
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skiy, Candidate of Technical Sciences, V. G. Poryakov, Doctor
of Technical Sciences, and A. V. Chernovol, Candidate of Tech-
nical Sciences; Ed.: M. S. Soroka; Tech. Ed.: M. S.
Gornostaypol'skaya; Chief Ed., Mashgiz (Southern Dept.): V. K.
Serdnyuk, Engineer.

Card 1/10

PURPOSE: This collection of articles is intended for scientific
workers and technical personnel of research institutes, plants,
and schools of higher technical education.

COVERAGE: The collection contains papers presented at a convention
held in Kiev on problems of physical metallurgy and methods of
the heat treatment of metals applied in the machine industry.
Phase transformations in metals and alloys are discussed, and
results of investigations conducted to ascertain the effect of
heat treatment on the quality of metal are analyzed. The pos-
sibility of obtaining metals with given mechanical properties
is discussed, as are problems of steel brittleness. The col-
lection includes papers dealing with kinetics of transformation,
heat treatment, and properties of cast iron. No personalia
are mentioned. Articles are accompanied by references, mostly
Soviet.

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E111/E435

AUTHORS: Sadovskiy, V.D., Bogacheva, G.N., Sokolov, B.K.
TITLE: Structural mechanism of phase transformations in the heating of steel
PERIODICAL: Fizika metallov i metallovedeniye, v.14, no.3, 1962, 414-421

TEXT: The authors consider some general problems relevant to the structural mechanism of phase overcrystallization (defined by the author as "the process or combination of processes causing each single-crystal grain (crystallite) to break up into several new, randomly orientated grains") during heating of steel. The experimentally observed dependence of A_{c3} on heating rate is explained by the change in the structural mechanism of the austenite-formation process. As the rate increases the homogeneous mechanism gives way to a heterogeneous mechanism in which solution of excess ferrite in austenite is accelerated through increased surface diffusion. An important part is played by the appearance of moving non-coherent boundaries: when they are present the austenization is heterogeneous and vice versa.
Card 1/2

Structural mechanism of phase ...

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E111/E435

With steel the homogeneous variant does not exclude the possible existence of moving boundaries at higher temperatures. For instance, with titanium or aluminium bronze the alpha → beta transformation occurring by the homogeneous mechanism does not lead to overcrystallization at temperatures right up to the melting point. The behaviour of Ti may be the "normal" behaviour. However, it is also possible that all cases of transformations accompanied by overcrystallization include the recrystallization effect. The authors emphasize that their approach needs further development but suggest that it provides a common basis for considering processes which at the first glance appear to be different. There are 8 figures. ✓

ASSOCIATION: Institut fiziki metallov AN SSSR
(Institute of Physics of Metals AS USSR)

SUBMITTED: May 6, 1962

Card 2/2

SADOVSKIY, V.D.; BOGACHEVA, G.N.; SOKOLOV, B.K.

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